Yu Jin

Contact Information

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Research Interests

Machine Learning, Graph Mining, High Performance Computing, Big Data Analytics

Education

University of Maryland, College Park — *Expect:* May 2018
Ph.D., Computer Engineering, GPA: 3.71/4.00 — Advisor:Joseph F. JaJa

Shanghai Jiao Tong University, Shanghai, China — June 2013
B.S., Electronic Science and Technology — Rank: 2/101

Research Experience

Research Assistant — June 2014 to present
Center for Health-related Informatics and Bioimaging — Advisor: Joseph F. JaJa

- Explored brain structural patterns from human brain network.
- Applied clustering techniques to generate pure connectivity-based brain atlases.
- Using GPU to accelerate spectral clustering on large-scaled graphs.

Research Assistant — July 2012 to August 2012
The University of Hong Kong — Advisor: Ngai WONG

- Investigated and designed parallel matrix solver algorithms.
- Implemented GPU-based QR and LU matrix decomposition.

Industrial Experience

Software Engineer Intern — Dec 2012 to June 2013
Nimbus Automation Technologies — Advisor: Gang Chen

- Designed and implemented parallized parasitic capacitance extraction algorithms in multi-thread and message-passing parallel modes.
- Achieved high performance in terms of speedup ratio and scaling efficiency.

Publications

Journal Paper:

1. Q. Wang, R. Chen, J. JaJa, **Y. Jin**, L. Hong, and E. Herzkovits, "Connectivity-Based Brain Parcellation: A Connectivity-Based Atlas for Schizophrenia Research", *Neuroinformatics, 1-15, 2015*

Conference Paper:

1. **Y. Jin**, J. JaJa, R. Chen, and E. Herzkovits, "A Data-Driven Approach to Extract Connectivity Structures from Diffusion Tensor Imaging Data", *Proceedings of IEEE International Conference on Big Data, 2015*

Selected Course Projects

ENEE646: Digital Computer Design — Programming Language: C

- Simulated 5-stage and 7-stage MIPS pipeline.
- Built simple and MESI cache simulators, and evaluated performance.

ENEE645: Compilers and Optimization — Programming Language: C++

- Implemented *loop forward propagation* with LLVM.

CMSC 714: High Performance Computing — Programming Language: Scala, Java

- Simulated *Game of Life* using OpenMP and MPI
- Implemented *k-nearest neighbor* and *PageRank* algorithms under *MapReduce* and *Spark* parallel platforms.

Honors and Awards

Distinguished Graduate School Fellowship — 2013
Jimmy H.C. Lin Graduate Scholarship — 2013
National Scholarship (Highest honor from Chinese government) — 2010, 2011

ACTIVITIES	Student Member of ACM-ICPC team, University of Maryland	Oct 2014 to Nov 2014
	Student Member of IEEE	Sept 2015 to present
	Student Member of SIAM	Feb 2014 to present

GRADUATE COURSES

Fall 2015: Random Processes in Communications and Control
Spring 2015: Sparse Signal Processing, High Performance Computing
Fall 2014: Convex Optimization, Unsupervised Learning
Spring 2014: Scientific Computing, Compilers and Optimization, Stochastic Process
Fall 2013: Digital Computer Design, Mathematical Foundations for Computer Engineering

TECHNICAL SKILLS

Programming Languages: C, C++, C#, Python, JAVA, SCALA, VHDL
Software packages: Matlab, LLVM, MPI, openMP, Spark, Hadoop
Parallel Platforms: Spark, Hadoop, CUDA
Operating System: Mac OS, Windows, Linux